

- 25 -

I claim:

1. A method of improving fabric properties comprising treating cotton fibers with a chemical reagent which forms covalent bonds with amino groups present within the fibers.
- 5 2. The method of Claim 1, wherein the chemical reagent is a carbodiimide.
3. The method of Claim 1, wherein the chemical reagent forms amide bonds.
4. A method of enzymatically degrading cotton fibers to
10 yield essentially pure cellulose comprising the steps of sequentially treating the fibers first with cellulase and then with protease.
5. A method of characterizing cotton fiber cell walls comprising the steps of specific enzyme degradation in sequential steps utilizing cellulases and proteases.
- 15 6. The method of Claim 5, wherein the cellulases are utilized at different pH's to accentuate differences between cotton fibers of different varieties.
7. The method of Claim 5, wherein different types of proteases are utilized.

- 26 -

8. The method of Claim 7, wherein the different types of proteases are utilized sequentially.

9. The method of Claim 5, wherein different types of cellulases are utilized.

5 10. The method of Claim 9, wherein different types of cellulases are utilized sequentially.

11. The methods of Claim 5-10, further comprising the step of utilizing the characterization of cotton fibers according to the methods to develop biochemical markers for fibers of different cotton
10 varieties.

12. The method of Claim 11, wherein the biochemical markers are used in plant breeding to improve fiber quality.

13. The method of Claim 11, wherein the biochemical markers are used as a means to distinguish varieties of cotton.